

REMARKS

This response is submitted in reply to the Office Action dated May 5, 2005. Claims 1-33 are pending in the patent application. Claim 16 has been amended herein. Claims 1-15 were previously canceled. No new matter has been added by any of the amendments made herein. Claims 1-21 and 23 were rejected under 35 U.S.C. §103(a). Applicants respectfully submit, for at least the reasons set forth below, that the rejections have been overcome or are improper.

Claims 16-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable in view of U.S. Patent No. 5,276,521 to Mori ("*Mori*") and U.S. Patent No. 4,454,416 to Gontowski et al. ("*Gontowski*"). The Patent Office relies primarily on *Mori* and further relies on *Gontowski* to cure the deficiencies of *Mori*. Applicants respectfully submit that the rejection is improper or has been overcome as set forth in detail below.

Of the pending claims at issue, claims 16, 22 and 28 are the sole independent claims. Amended claim 16 recites a picture processing apparatus including a plurality of pixels, each pixel comprising a light receiving portion for generating an electric signal corresponding to an intensity of a received light; an amplifying portion for amplifying the electric signal generated by the light receiving portion; a plurality of storing portions, wherein each of the storing portions stores, as a current signal, the electric signal amplified by the amplifying portion; a load portion for converting the current signal stored by each of the storing portions into a voltage signal; a bias portion for supplying an offset current to an input of the load portion; a calculating portion for calculating an output signal of the load portion based on the voltage signal converted by the load portion; and an outputting portion for outputting a calculated result of the calculating portion. Claims 17-21 depend from claim 16 and thus, as a matter of law, incorporate each of the features of claim 16.

Independent claim 22 recites a plurality of pixels operable within a photographing device, the pixels arranged on a circuit in a matrix, for detecting a brightness of an object. Each of the pixels comprises a light receiving portion for generating an electric signal corresponding to an intensity of a received light; an amplifying portion for amplifying the electric signal generated by the light receiving portion; a plurality of storing portions, wherein each of the storing portions stores, as a current signal, the electric signal amplified by the amplifying portion; a load portion for converting the current signal stored by each of the storing portions into a voltage signal; a

bias portion for supplying an offset current to an input of the load portion; a calculating portion for calculating an output signal of the load portion based on the voltage signal converted by the load portion; and an outputting portion for outputting a calculated result of the calculating portion. Claims 23-27 depend from claim 22 and thus, as a matter of law, incorporate each of the features of claim 22.

Independent claim 28 recites a photographing device for detecting a brightness of an object comprising a pixel area in which pixels are arranged in a matrix. Each pixel comprises a light receiving portion for generating an electric signal corresponding to an intensity of a received light and an amplifying portion for amplifying the electric signal generated by the light receiving portion; a second amplifying area in which second amplifying portions are arranged in each column of the matrix of the pixels in the pixel area, wherein each of the second amplifying portions amplifies a current signal based on current mirror amplification by a first mirror transistor and a second mirror transistor connected such that a gate electrode of the first mirror transistor faces a gate electrode of the second mirror transistor; a pixel-outside storing area in which a plurality of storing portions are arranged in a matrix corresponding to the arrangement of the pixels in the pixel area, wherein each of the storing portions stores, as a current signal, the electric signal that has been amplified; a load portion and calculating portion area in which a plurality of load portions and a plurality of calculating portions are arranged in each column of the matrix of the pixels of the pixel area, wherein each of the load portions converts the current signal of the corresponding storing portion into a voltage signal, and wherein each of the calculating portions performs a calculating process; and an outputting portion area in which a plurality of outputting portions are arranged in each column of the matrix of the pixels of the pixel area, wherein each of the outputting portions outputs a calculated result of the corresponding calculating portion. The pixel area, the second amplifying portion area, the pixel-outside storing area, the load portion and calculating portion area, and the outputting portion area are disposed on a circuit. Claims 29-33 depend from claim 28 and thus, as a matter of law, incorporate each of the features of claim 28.

In contrast to the claimed invention, Applicants believe that *Mori* is deficient with respect to at least a number of features of the claimed invention. For example, Applicants believe that *Mori* at least fails to describe a picture processing apparatus where *each pixel* includes: (a) an

amplifying portion; (b) a plurality of storing portions; (c) a load portion for converting the current signal stored by each of the storing portions into a voltage signal; (d) a bias portion; (e) a calculating portion; *and* (f) an outputting portion. See also, Fig. 2. Rather, *Mori* discloses *one* storage portion 6-1 to accommodate a *plurality* of pixels 1-11,1-21,1-31. See, *Mori*, Fig. 3. Indeed, *Mori* provides for “video signal current storage means provided for each of said column lines to simultaneously store video signal currents of all pixels in that row line.” See, *Mori*, col. 3, lines. Accordingly, *Mori* does not teach, disclose or suggest a plurality of pixels, each pixel including a plurality of storing portions in addition to the other elements of independent claims 16, 22 or 28.

Furthermore, *Gontowski* does not cure the deficiencies of *Mori*. The Patent Office primarily relies on *Gontowski* for the general teaching of a photo diode and a current mirror amplifier. See, Office Action, pg. 3. Accordingly, *Mori* and *Gontowski* do not disclose the claimed invention, even if properly combinable.

Claims 17-21, 23-27 and 29-33 depend from claims 16, 22 and 28, respectively. Therefore, Applicants respectfully submit that claims 17-21, 23-27 and 29-33 are allowable for at least reasons set forth above with respect to independent claims 16, 22 and 28 because the combination of *Mori* and *Gontowski* does not disclose, teach or suggest the novel elements of claims 17-21, 23-27 and 29-33 in combination with the novel elements of independent claims 16, 22 and 28, respectively. For these reasons, claims 17-21, 23-27 and 29-33 are each patentability distinguished over the combination of *Mori* and *Gontowski* and are in condition for allowance.


Accordingly, Applicants request that the obviousness rejection with respect to claims 16-33 be withdrawn.

In light of the above, Applicants respectfully submit that claims 16-33 in the present application are in condition for allowance and respectfully solicit an early allowance of these claims.

Respectfully submitted,

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